**Modeling Climate Online Part 1**

*6.1.1 Describe the role of greenhouse gases in maintaining mean global temperature.*

*1.1.2 Apply the systems concept on a range of scales.*

**Go to the first Segment on** [**http://concord.org/activities/modeling-earths-climate**](http://concord.org/activities/modeling-earths-climate)

**Looking for Trends in Earth’s Temperature (Climates of the Past)**

1. After you have watched the Earth’s Temperature Changes video clip, answer the following questions

a. Describe the colors indicate about the changes in average temperature over time from 1881 to 2007?

b. In the past 50 years, where has the temperature changed the most?

2. Describe the graph.

3. Why are the error bars smaller near the year 2000 than in the 1890’s?

4. Place a screenshot of your predicted graph here.

a. explain your graph and why you made the predictions you did.

b. How certain are you about your graph?

c. Explain what affected your level of confidence in the previous question.

5. Ice core data, tree core data, and sediment layers are examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ indicators.

6. Which statement is supported by the graph of the ice core data?

7. Describe how current climate trends (as shown in the first graph) might change the pattern of warming and cooling as shown in this graph. Indicate how this might look on the graph below.

ice core data.tiff

8. After watching the video “Freeze, Freeze, Fry”, explain how scientists can be both fairly certain of global climate change and still actively researching the unknown factors